VULCAN

INSTALLATION & OPERATION MANUAL

VC SERIES
GAS CONVECTION OVENS

MODELS

VC4GD	*ML-126611*
VC6GD	*ML-126613*

MODEL VC4GD

VULCAN-HART COMPANY, P.O. BOX 696, LOUISVILLE, KY 40201-0696, TEL. (502) 778-2791

FORM 31123 Rev. C (Feb. 2002)

www.vulcanhart.com

IMPORTANT FOR YOUR SAFETY

THIS MANUAL HAS BEEN PREPARED FOR PERSONNEL QUALIFIED TO INSTALL GAS EQUIPMENT, WHO SHOULD PERFORM THE INITIAL FIELD START-UP AND ADJUSTMENTS OF THE EQUIPMENT COVERED BY THIS MANUAL.

POST IN A PROMINENT LOCATION THE INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE SMELL OF GAS IS DETECTED. THIS INFORMATION CAN BE OBTAINED FROM THE LOCAL GAS SUPPLIER.

IMPORTANT

IN THE EVENT A GAS ODOR IS DETECTED, SHUT DOWN UNITS AT MAIN SHUTOFF VALVE AND CONTACT THE LOCAL GAS COMPANY OR GAS SUPPLIER FOR SERVICE.

FOR YOUR SAFETY

DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS OR LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

WARNING: IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION, SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, INJURY OR DEATH. READ THE INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS EQUIPMENT.

IN THE EVENT OF A POWER FAILURE, DO NOT ATTEMPT TO OPERATE THIS DEVICE.

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Installation, Operation and Care of VC SERIES GAS CONVECTION OVENS

KEEP THIS MANUAL FOR FUTURE REFERENCE

GENERAL

Models VC4GD and VC6GD feature a solid state temperature control. One hour dial timer is standard; five hour timer is optional. Two-speed 1/2 HP (0.37 kw) electric motor is standard equipment. Each oven is furnished with 5 racks; additional oven racks are available. The burner input rating for each oven is 44,000 BTU/hr.

Porcelain interior is standard on all models; stainless steel interior is optional.

Model VC6GD has a 4 inches (10 cm) deeper oven cavity.

Standard ovens are 120 V, 60 Hz, 1 PH and include cord and plug. Optional electrical specifications of 208/240 V are available and require hard wire connection.

Independently opening doors are standard; simultaneous door opening is optional.

Other options include: an open stand with lower storage rack, roast and hold, and a stacking kit for mounting one oven on top of another.

Vulcan VC Series Gas Convection Ovens are produced with quality workmanship and material. Proper installation, usage and maintenance of your oven will result in many years of satisfactory performance.

It is suggested that you thoroughly read this entire manual and carefully follow all of the instructions provided.

FEATURES AND OPTIONS

Model	Thermostat	Timer		Oven Lights	Roast & Hold	Legs (Opt.)	Stand With Storage Rack	Voltage
VC4GD VC6GD	Solid State	1 Hr. Std.	5 Hr. Opt.	Std.	Opt.	25 3/4" (65 cm)	Opt.	120/60/1 Std. 208/60/1 Opt. 240/60/1 Opt. 240/50/1 Opt. 220/380 (3W)/50/3 Opt. 220/380 (4W)/50/3 Opt. 240/415 (4W)/50/3 Opt
Stacked Ovens						8" (20 cm)		

INSTALLATION

Before installing, verify that the electrical service and type of gas supply (natural or L.P.) agree with the specifications on the rating plate, located behind the top trim panel on the front of the oven. If the supply and equipment requirements do not agree, do not proceed with the installation. Contact your dealer or Vulcan-Hart Company immediately.

UNPACKING

This oven was inspected before leaving the factory. The transportation company assumes full responsibility for safe delivery upon acceptance of the shipment. Immediately after unpacking, check for possible shipping damage. If the oven is found to be damaged, save the packaging material and contact the carrier within 15 days of delivery.

Carefully unpack the oven and place it in a work-accessible area near to its final installed position.

Do not use the doors or their handles to lift the oven.

LOCATION

The equipment area must be kept free and clear of combustible substances.

When installed, minimum clearance from combustible construction must be 1 inch (2.5 cm) at the left side, 4 inches (10 cm) at the right side and 6 inches (15 cm) at the rear. Minimum clearance from noncombustible construction must be 0 inch (0 cm) at the left side, 4 inches (10 cm) at the right side and 6 inches (15 cm) at the rear. The oven may be installed on combustible floors.

The installation location must allow adequate clearances for servicing and proper operation. For solid state and digital control models, there must be 18 inches (46 cm) of clearance on the right side of the oven from any open flame.

The oven must be installed so that the flow of combustion and ventilation air will not be obstructed. Adequate clearance for air openings into the combustion chamber must be provided. Make sure there is an adequate supply of air in the room to allow for combustion of gas at the oven burners.

Do not permit fans to blow directly at the oven. Wherever possible, avoid open windows next to the oven. Avoid wall-type fans which create air cross currents within the room.

INSTALLATION CODES AND STANDARDS

In the United States, Vulcan ovens must be installed in accordance with: 1) State and local codes; 2) National Fuel Gas Code, ANSI-Z223.1 (latest edition), available from American Gas Association, 1515 Wilson Boulevard, Arlington, VA 22209; 3) NFPA-96, *Vapor Removal from Cooking Equipment*, (latest edition), available from National Fire Protection Association, Batterymarch Park, Quincy, MA 02269 and 4) National Electrical Code, NFPA-70 (latest edition).

In Canada, Vulcan ovens must be installed in accordance with: 1) Local codes; 2) CAN/CGA-B149.1, *Natural Gas Installation Code* (latest edition) or CAN/CGA-B149.2, *Propane Installation Code* (latest edition), available from Canadian Standards Association, 178 Rexdale Boulevard, Etobicoke, Ontario, Canada M9W1R3 and 3) Canadian Electrical Code, CSA Standard C22.2 No.3, *Electrical Features of Fuel Burning Equipment* (latest edition).

INSTALLING BASIC OVEN

The basic oven must be installed on legs or be mounted on a modular stand. Installations on concrete bases or other supports restricting air circulation underneath the oven is not advisable and may void the warranty.

Ovens Mounted on Casters

If the oven is to be installed on casters, you must use a flexible connector (not supplied) that complies with the Standard for Connectors for Movable Gas Appliances, ANSI-Z21.69 (latest edition) and CAN/CGA 6.16 (latest edition) and a quick-disconnect device that complies with the Standard for Quick-Disconnect Devices for Use With Gas Fuel, ANSI-Z21.41 (latest edition) and CAN1-6.9 (latest edition). Provide a restraining device for the gas line to limit movement of the oven without depending on the connector and/or any quick-disconnect device or its associated piping to limit oven movement. Remove two screws from the rear of the oven and install the tie-down strap shipped with the casters using these screws (Fig. 1). Attach the gas line strain relief to the tie-down strap at the rear of the oven (Fig. 1).

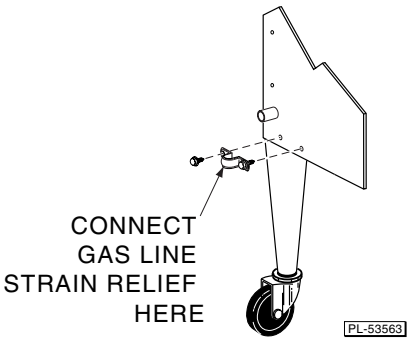


Fig. 1

If disconnection of the restraint is necessary, turn off the gas supply before disconnection. Reconnect this restraint prior to turning the gas supply on and returning the oven to its installation position.

Separate instructions for installing casters to the oven are included with the casters.

Assembling the Legs to the Oven

The legs must be installed on the bottom of the oven. Gently position the oven on its side, taking care not to scratch or damage it.

Attach each of the four leg assemblies to the bottom of the oven with the 24 bolts and lockwashers (six per leg). Carefully raise the oven to its normal position.

ASSEMBLING THE STAND TO THE OVEN

Attach each of the four leg assemblies to the bottom of the oven with the 24 bolts and lockwashers (six per leg). Carefully raise the oven to its normal position.

Attach the undershelf to the legs with eight bolts and lockwashers (two per leg).

Install the rack guides into the undershelf at desired locations (for pan or flat rack), then attach the rack supports to the top end of the rack guides. Attach rack supports to the leg assembly by removing one middle bolt and reattaching back through the end holes in the rack support (Fig. 2).

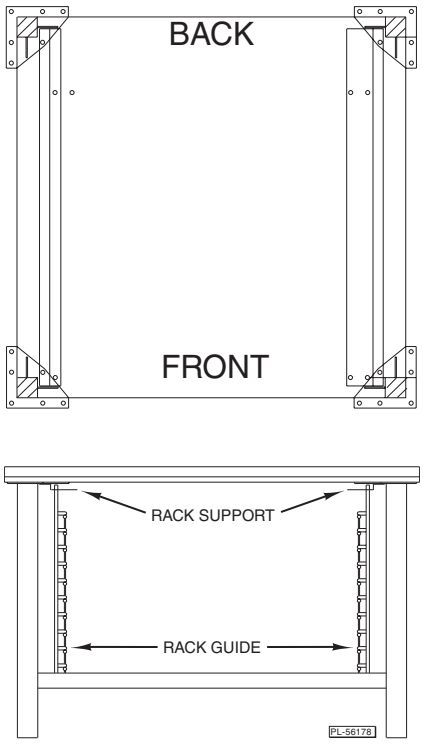


Fig. 2

ASSEMBLING STACKED OVENS

Unpack the ovens and stack kit. Position the oven to be used as the bottom oven on its back for access to the oven bottom, taking care not to scratch or damage it. The gas pipe protrudes beyond the back; provide for this when the oven is tipped back by resting it on suitable spacers (2 x 4's, etc.). Attach the four leg assemblies with the 24 bolts and lockwashers (six per leg).

Place the lower oven (with legs) on the floor and remove two $^{7}/_{16}$ inch (1.1 cm) diameter knockouts on each side of the top cover. Remove vent guard and discard it.

Move the oven with legs to the installed position and place upper oven on top of lower oven using the locating studs.

Install the stacking flue (Fig. 3) with the four screws provided.

Connect the piping between the top oven and bottom oven. For all gas supply connections, pipe joint compound must be resistant to the action of propane gases.

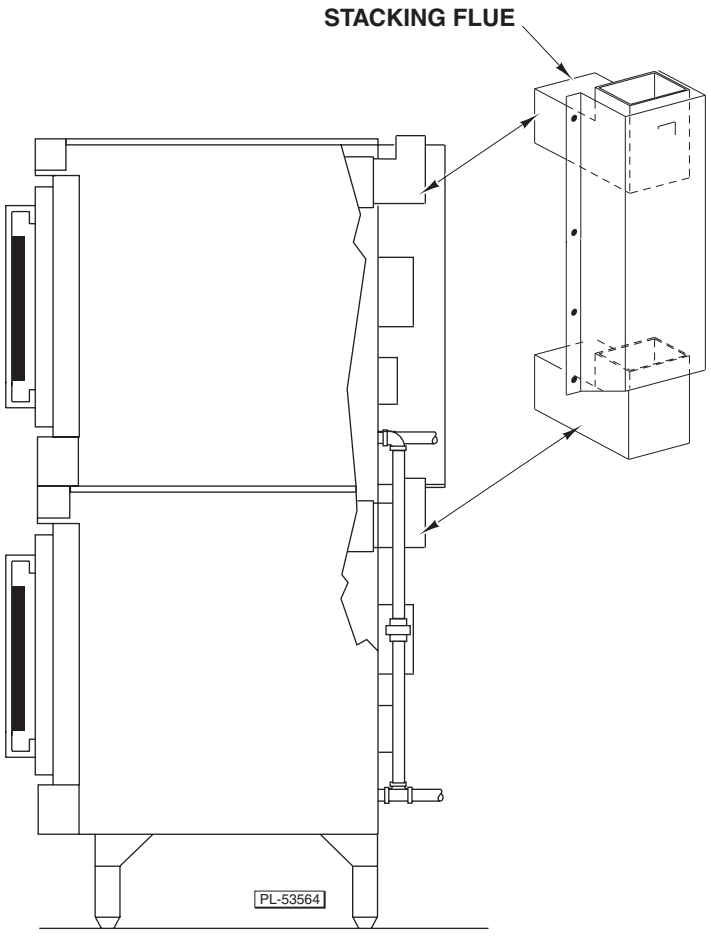


Fig. 3

LEVELING

Make sure that the oven racks are level in the final installed position. If the oven is installed on legs, turn the adjustable feet in or out to level the oven front-to-back and side-to-side. If the oven is installed on casters, loosen set screws and turn casters in or out to level the oven front-to-back and side-to-side. Retighten set screws after leveling.

MANUAL GAS VALVE (ALL MODELS)

The manual gas valve, located behind the small door in the lower front panel, should remain off until all electrical and gas connections are made and the ovens are ready to be used.

GAS CONNECTION

GAS DATA

MODEL	INPUT RATING		MANIFOLD PRESSURE	
	Natural	L.P. Gases (Propane)	Natural	L.P. Gases (Propane)
VC4GD VC6GD	44,000 BTU/hr	44,000 BTU/hr	3.5" W.C. (0.9 kPa)	10" W.C. (2.5 kPa)

Gas supply connections and any pipe joint compound must be resistant to the action of propane gases.

Location of the gas inlet is at the rear of the oven. Codes require that a gas shutoff valve must be installed in the gas line ahead of the oven.

Connect gas supply after leveling the oven. The gas supply line must be at least the equivalent of $^{3}/_{4}$ inch (1.9 cm) iron pipe. Make sure the pipes are clean and free of obstructions, dirt or pipe joint compound.

The ovens are equipped with fixed burner orifices which coincide with installation elevation.

The oven is provided with a regulator integral to the gas solenoid valve and requires no external regulator.

Natural gas pressure regulators are preset for 3.5 inches W.C. (Water Column) (0.9 kPa); propane gas pressure regulators are preset for 10 inches W.C. (2.5 kPa).

WARNING: PRIOR TO LIGHTING, CHECK ALL JOINTS IN THE GAS SUPPLY LINE FOR LEAKS. USE SOAP AND WATER SOLUTION. DO NOT USE AN OPEN FLAME.

After piping has been checked for leaks, all piping receiving gas should be fully purged to remove air.

TESTING THE GAS SUPPLY SYSTEM

When gas supply pressure exceeds $^{1}/_{2}$ psig (3.45 kPa), the oven and its individual shutoff valve must be disconnected from the gas supply piping system.

When gas supply pressure is $^{1}/_{2}$ psig (3.45 kPa) or less, the oven should be isolated from the gas supply system by closing its individual manual shutoff valve.

BURNER AIR ADJUSTMENT

Although main burner air is adjusted before shipment, it should be checked at the time of installation. Excessive air will cause flames to lift off a burner when cold or may cause flash-back during normal cycling of oven, particularly when propane gas is used.

Insufficient air will cause flames to burn with a yellow tip and result in carbon accumulation in the flame chamber and heat exchanger tubes.

Contact your local Vulcan-Hart servicer if required.

VENT SYSTEM

DO NOT obstruct the flow of flue gases from the flue located on the rear of the oven. It is recommended that the flue gases be ventilated to the outside of the building through a ventilation system installed by qualified personnel.

Ovens may use an optional down-draft diverter flue method. This optional down-draft diverter must be purchased from the oven manufacturer and vented to the outside; otherwise, the installation of any such device will void all oven certifications and warranties. When the diverter is supplied, it may be connected to a Type “B” vent.

From the termination of the flue to the filters of the hood venting system, a minimum clearance of 18 inches (46 cm) must be maintained.

Information on the construction and installation of ventilating hoods may be obtained from *Vapor Removal from Cooking Equipment*, NFPA Standard No. 96 (latest edition), available from the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

ELECTRICAL CONNECTIONS

WARNING: ELECTRICAL AND GROUNDING CONNECTIONS MUST COMPLY WITH THE APPLICABLE PORTIONS OF THE NATIONAL ELECTRICAL CODE AND/OR OTHER LOCAL ELECTRICAL CODES.

WARNING: DISCONNECT ELECTRICAL POWER SUPPLY AND PLACE A TAG AT THE DISCONNECT SWITCH TO INDICATE THAT YOU ARE WORKING ON THE CIRCUIT.

WARNING: APPLIANCES EQUIPPED WITH FLEXIBLE ELECTRICAL POWER SUPPLY CORD ARE PROVIDED WITH A THREE-PRONG GROUNDING PLUG. THIS PLUG MUST BE CONNECTED INTO A PROPERLY GROUNDED THREE-PRONG RECEPTACLE. IF THE RECEPTACLE IS NOT THE PROPER GROUNDING TYPE, CONTACT AN ELECTRICIAN. DO NOT REMOVE THE GROUNDING PRONG FROM THE PLUG.

VC series ovens with 120 V/60 Hz/1 PH electrical specification are equipped with a cord and plug as standard equipment.

A wiring diagram is located on the inside of the control housing.

ELECTRICAL DATA

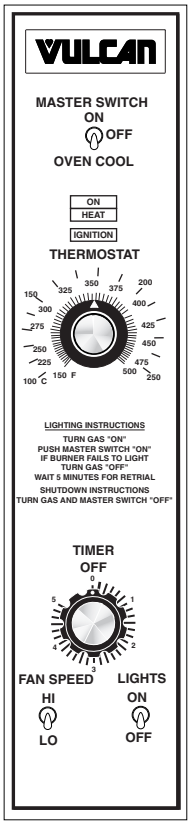
Models	V/Hz/PH	Minimum Circuit Ampacity Maximum Protective Device AMPS
VC4GD VC6GD	120/60/1	15
	208/60/1	15
	240/60/1	15
	240/50/1	15
	220/380 (3W)/50/3	15
	220/380 (4W)/50/3	15
	240/415 (4W)/50/3	15

Compiled in accordance with the National Electrical Code, NFPA-70 (latest edition).

OPERATION

WARNING: THE OVEN AND ITS PARTS ARE HOT. USE CARE WHEN OPERATING, CLEANING OR PERFORMING ANY MAINTENANCE.

CONTROLS (Models VC4GD and VC6GD Without Roast & Hold)



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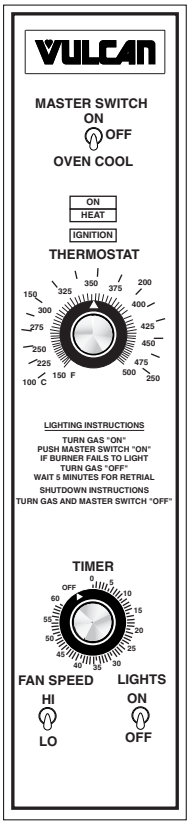

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Master Switch ON — Turns oven control circuits on.
OFF — Turns oven control circuits off.
OVEN COOL — Allows the fan motor to run with the doors ajar to speed ovencooling.

On Light (Amber) — Lit when Master Switch is ON.

Heat Light (White) — Comes on and goes off when the burner cycles on and off.

Ignition Light (Red) — Comes on if burner fails to ignite. When lighting the oven, the IGNITION light flashes.

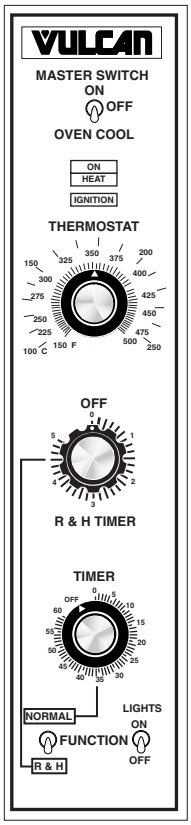
Thermostat — Controls oven temperature during cooking operation.

Timer (1 Hr. or 5 Hr.) — Sets the bake time. Buzzer sounds continuously after timer counts down to 0. Oven does not turn off. Turn Timer to OFF to stop buzzer. When oven is not in use, keep Timer at OFF position.

Fan Speed Switch — Allows you to select HI or LO Fan Speed.

Lights Switch — Turns the lights in the oven ON or OFF.

CONTROLS (Models VC4GD and VC6GD With Roast & Hold)



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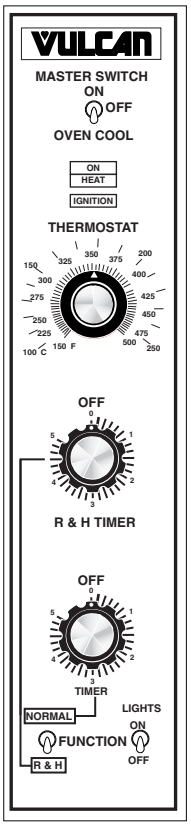

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Master Switch ON — Turns oven control circuits on.
OFF — Turns oven control circuits off.
OVEN COOL — Allows the fan motor to run with the doors ajar to speed ovencooling.

On Light (Amber) — Lit when Master Switch is ON.

Heat Light (White) — Comes on and goes off when the burner cycles on and off.

Ignition Light (Red) — Comes on if burner fails to ignite. When lighting the oven, the IGNITION light flashes.

Thermostat — Controls oven temperature when Function switch is on NORMAL or during the first stage of Roast & Hold.

R & H Timer — Sets the first stage cooking time in Roast & Hold.

Timer (1 Hr. or 5 Hr.) — Sets the bake time when Function switch is on NORMAL. Buzzer sounds continuously after timer counts down to 0. Oven does not turn off at end of cycle. Turn Timer to OFF to stop buzzer. When oven is not in use, keep timer at OFF position.

Function Switch — Allows you to select Normal or Roast & Hold (R & H).

Normal: Uses the regular timer and high fan speed.

R & H: Uses the R & H Timer for the first stage of roasting at the thermostat setting, selects a hold temperature of 160°F (71°C) during second stage roasting. Uses low fan speed when burners are on.

Lights Switch — Turns the lights in the oven ON or OFF.

BEFORE FIRST USE

Before using the oven for the first time, it must be "burned in" to release any odors that might result from heating the new surfaces in the chamber.

1. Using a clean, damp cloth, wipe the inside of the oven including the racks.
2. Close the oven doors.
3. Push the Master Switch to ON.
4. Turn the Thermostat to 300°F (149°C) and allow the oven to cycle for 2 hours or until no odor is detected before pushing the Master Switch to OFF.

PRE-OPERATION INSTRUCTIONS

1. Ensure the main power supply is ON.
2. Set the Thermostat to the desired temperature.
   - The ON light will glow after lighting the oven. If the HEAT light is not lit, make sure the oven doors are closed.

If the burner fails to light, the red IGNITION light will come on and remain on.

LIGHTING MODEL VC4GD AND VC6GD OVENS

1. Turn the main gas supply ON.
2. Push the Master Switch to ON.
3. If the burner fails to light, turn gas off.

Wait 5 minutes before repeating Steps 1 through 3.

If the oven does not light after three trials, turn off the main gas valve and call a qualified servicer.

SHUTDOWN INSTRUCTIONS

1. Turn the gas and Master Switch to OFF.

USING MODEL VC4GD AND VC6GD OVENS

Preheating

1. Select the proper rack arrangement for the product to be cooked. Refer to RACK ARRANGEMENTS, page 15.
2. Make sure the doors are closed.
3. Push Master Switch to ON. The amber ON light will come on, indicating that power to the oven is on.
4. Set the two-speed FAN SWITCH to the desired setting (without Roast & Hold models).
5. Set thermostat as desired. The HEAT light will come on and remain on until the oven reaches set temperature (approximately 10 to 15 minutes for settings from 300 to 400°F (149 to 204°C)). Refer to SUGGESTED COOKING GUIDELINES for temperatures and times for various products.
6. Prepare product and place in suitable pans. When the white HEAT light goes off, the oven has reached the desired preheat temperature.

Cooking

1. Open doors and load the product into the oven. Place pans in the center of the racks. Close doors.
2. Set the Timer. After the preset time lapses, turn Timer to OFF position to stop alarm.
3. When product is done, open doors and carefully remove cooked product from the oven. Care should be taken when wiping up spills, as oven is still hot.

Roast & Hold (When Equipped)

1. Turn the oven ON.
2. Set the Thermostat to the desired setting.
3. Position the Function switch to R & H.
4. Set the R & H TIMER to the desired roasting time.
    - The oven will roast the product for the chosen set time and temperature. The oven controller will automatically switch from the roasting thermostat to the holding thermostat at the end of the preset roasting time. In holding mode the oven will maintain a temperature of 160°F (71°C) until the oven is turned off. The blower fan will run while the burner is on and the unit is operating in R & H.
5. To turn Cook & Hold off, flip the Function switch to the NORMAL position. The oven temperature will return to the thermostat setting.

End of Day

1. Turn Thermostat to OFF setting.
2. Push Master Switch to OVEN COOL. Leave door ajar while the fan is on to cool the oven.
3. When oven has cooled sufficiently, flip Master Switch to OFF.
4. Turn gas valve (located behind panel) to OFF and clean oven.

Extended Shutdown

Repeat Steps 1 through 4 of End of Day. Unplug oven and shut off manual gas valve.

CONSERVING ENERGY— ALL MODELS

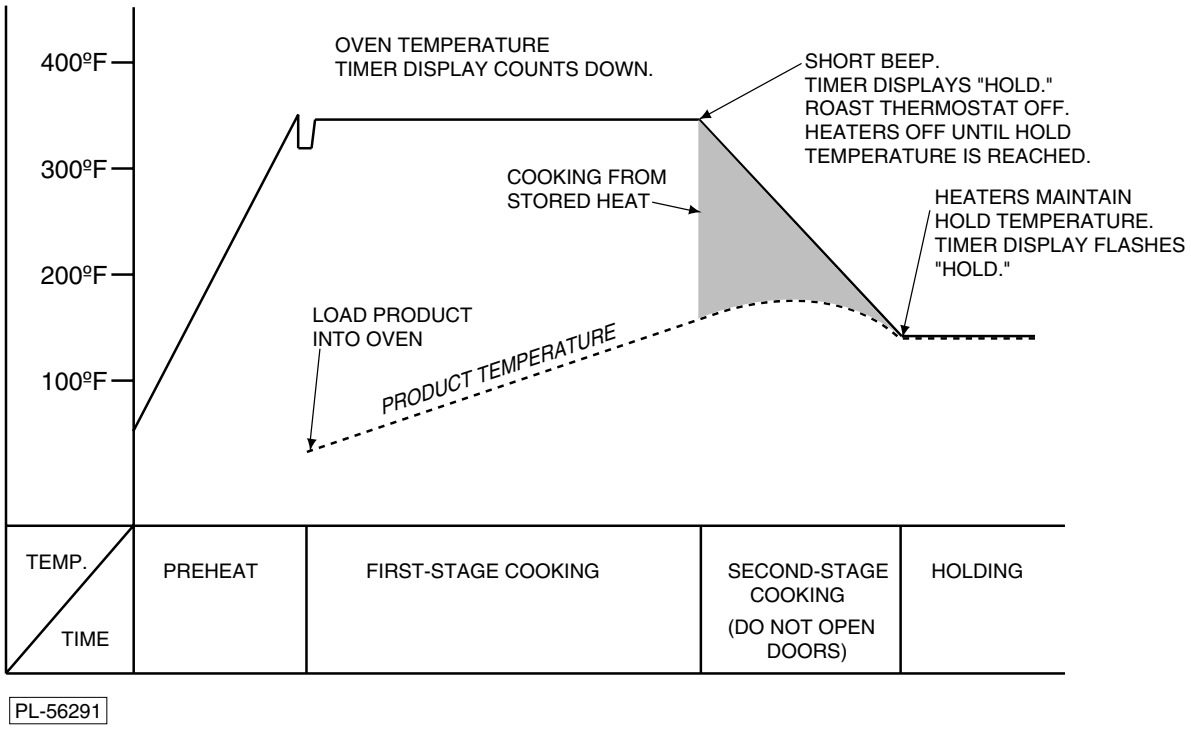
- Turn off unused equipment.
- Adjust menu patterns and cooking/baking schedules for optimum equipment use.
- Reduce thermostat settings in slack periods since gas equipment heats up and recovers quickly.
- Preheat only to required cooking temperature for specific food — not higher.
- Do not open the oven door unless absolutely necessary.
- Keep area around the oven door clean and free of food particles.
- Any obstruction that prevents the door from closing completely will adversely affect oven efficiency.

ROAST & HOLD OPERATION — (When Equipped)

Roast & Hold cooks the product in two stages. During first-stage cooking, the oven temperature is regulated by the temperature setpoint and the R & H Timer setting. After the time counts down to 00:00, second-stage cooking begins. During second-stage cooking, the heating elements are off as the temperature in the oven declines to the hold temperature. The doors should remain closed during second-stage cooking.

When the hold temperature is reached, the display flashes *HOLD*. Temperature in the oven will be maintained at the hold temperature until the oven is turned off.

ROAST AND HOLD DIAGRAM - Time vs. Temperature



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PROPER UTENSILS

The use of proper utensils can enhance oven operation. Medium and light weight pans allow the product to warm faster. Roast meats in shallow pans deep enough to hold all juices yet allow free air circulation.

OPERATING HINTS

When using the convection oven for the first time with a particular food, check the degree of doneness periodically before the suggested time has elapsed. This will ensure the desired doneness is achieved.

Record your temperature and time settings for various products. The convection oven can provide consistent and repeatable results.

The convection oven is faster than conventional deck-type ovens; temperature settings are lower and cook times are shorter. Since recipes and foods are subject to many variations and tastes, the guidelines regarding times and temperatures in this manual are SUGGESTIONS ONLY. Experiment with your food products to determine the cooking temperatures and times that give you the best results.

RACK ARRANGEMENTS

All models are supplied with five racks and have a maximum operating capacity of six racks per oven. The 11-position rack supports provide for maximum flexibility and proper rack spacing.

The following arrangements are recommended. The position numbers are in numerical sequence starting at the bottom (Fig. 4).

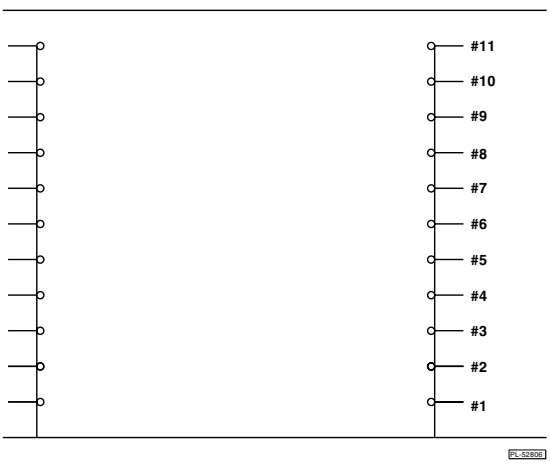

Fig. 4

Arrangement #1 — Five racks in positions #2, #4, #6, #8 and #10 for cookies or reconstitution of frozen lunches at maximum capacity. Also recommended position for general baking in sheet pans with products not over 2 1/2 inches (6.4 cm) high.

Arrangement #2 — Four racks in positions #1, #4, #7 and #10 for general baking in sheet pans, muffin pans, pie or cake tins and pudding pans 3 1/2 inches (8.9 cm) high with products not over 4 inches (10.2 cm) high. This arrangement can also be used for casseroles or meat dishes in #200 series food service pans 12 x 20 x 2 1/2" (30.4 x 50.8 x 6.4 cm).

Arrangement #3 — Three racks in positions #1, #5 and #9 for baking breads or cakes in loaf or tube pans and high meringue pies. This arrangement can also be used for casseroles, meat dishes or roasting in pans up to 5 1/2 inches (14 cm) deep with products up to 6 inches (15.2 cm) high.

Arrangement #4 — Two racks in positions #1 and #6 for roasting turkeys and other roasts up to 7 inches (17.8 cm) high.

With the rack in position #1, there is limited space for a water pan (see cooking chart in this manual).

When mixed loads or partial loading is regular practice, some users have developed other rack arrangements to suit their particular needs.

SPECIAL PROCEDURES FOR BAKING

When baking yeast breads, cooking starts immediately in the convection oven. Yeast breads do not usually rise as much in a convection oven as in a conventional oven. Therefore it is usually necessary to allow fuller proof, 2 1/2 to 3 times increase in volume, for best results.

When baking pies in your convection oven, three or four pies should be put on an 18 x 26" (45.7 x 66 cm) sheet or bun pan. This procedure helps the bottom crust to bake, makes handling easier and reduces the possibility of boilover spoiling the appearance of the pies on the lower racks.

HIGH LIMIT SWITCH

All ovens are equipped with a high limit switch, which senses the temperature of the oven to prevent overheating. The high limit switch operates independently and will automatically shut the oven down should the primary control fail. If this situation occurs, DO NOT attempt to bypass the high limit. Shut the oven down and contact your local Vulcan authorized service agency.

RECOMMENDED TEMPERATURES AND TIMES FOR ROASTING

Meat roasting is most satisfactory at temperatures of 225 to 325°F (107 to 163°C) for beef, lamb, poultry and ham; 325°F (163°C) for fresh pork as recommended by USDA and American Meat Institute.

A pan, approximately 12 x 20 x 1" (30.4 x 50.8 x 2.5 cm) full of water, may be placed in the oven bottom. This water supplies humidity to reduce shrinkage. Water should be added if necessary during roasting.

Roasting pans should be no deeper than necessary to hold drippings (usually 2 to 2 1/2" (5.1 to 6.4 cm)).

Cooking time and shrinkage may vary with roasting temperature, cut, grade of meat and degree of doneness. Smaller cuts will generally show greater time savings than larger cuts at a given temperature.

ROASTING TEMPERATURE CHART

PRODUCT	TEMP °F	TEMP (°C)	APPROXIMATE TIMES
Standing Rib Roast — Oven Ready	250	(121)	3 to 4 Hrs. — Rare 4 to 4 1/2 Hrs. — Med.
Rolled Rib Roasts — 20 to 22 lb (9.1 to 10 kg)	275	(135)	4 Hrs. — Med.
Veal Roast — 15 lb (6.8 kg)	300	(149)	3 Hrs. — Med. Well
Turkeys — 15 to 20 lb (6.8 to 9.1 kg)	300	(149)	3 Hrs.
Meat Loaf — 8 to 10 lb (3.6 to 4.5 kg)	350	(177)	45 to 60 Minutes

COOKING HINTS

Forced air convection cooking is faster than conventional oven cooking, and therefore overcooking is more common. Do not cook products faster than is practical for the best results. Since forced air convection supplies heat to the surface of the product, the thicker or more massive a product is for its type, the longer it will take to absorb enough heat to cook.

The oven will cook or bake full or partial loads at standard recipe temperatures. As with any oven, you may wish to use a temperature of up to 25 F° (-4 C°) higher or lower than the recipe for the particular product result that you prefer.

When established, convection oven times and control settings should be noted on your recipe.

SUGGESTED COOKING GUIDELINES

Recommended temperatures, times and number of racks are intended as a guide only. Adjustments must be made to compensate for variations in recipes, ingredients, preparation and personal preference in product appearance.

The oven does not require special recipes. Excellent results can be obtained from any good commercial recipe with reduced cooking times.

RECOMMENDED TEMPERATURES, TIMES AND NUMBER OF RACKS FOR BAKING

PRODUCT	TEMPERATURE °F	(°C)	TIME IN MINUTES	NO. OF RACKS
Cakes				
Sheet Cakes				
18 x 26 x 1" (45.7 x 66 x 2.5 cm) pan				
Scaled 4½ to 6 lb (2 to 2.7 kg)/pan	325-360	(163-182)	20 to 23	5
Scaled 6 to 7½ lb (2.7 to 3.4 kg)/pan	335-350	(168-177)	22 to 25	4
Sheet Cakes				
18 x 26 x 2" (45.7 x 66 x 5 cm) pan	300-325	(149-163)	25 to 35	4
Scaled 10 to 12 lb (4.5 to 5.4 kg)/pan	300-325	(149-163)	25 to 35	3
Or, two 12 x 18 x 2" (30.5 x 45.7 x 5 cm) pans				
Scaled 5 to 6 lb (2.3 to 2.7 kg)/pan				
Angel or Sponge Cakes				
Sheet Pans 18 x 26 x 1" (45.7 x 66 x 2.5 cm)				
Scaled 5 to 6 lb (2.3 to 2.7 kg)/pan	300-325	(149-163)	15 to 20	4
Loaf or Tube Pans	315-340	(157-171)	20 to 30	3 – 4
Cupcakes	350-400	(177-204)	6 to 12	4
Frozen Fruit Pies	350-375	(177-191)	30 to 45	3 – 4
Pumpkin or Custard Pies	300-350	(149-177)	30 to 45	3 – 4
Cobblers				
12 x 18 x 2" (30.5 x 45.7 x 5 cm) or 12 x 20 x 2½" (30.5 x 50 x 6.3 cm)	350-400	(177-204)	30 to 45	3 – 4
Meringue Pies	350-425	(177-218)	6 to 10	2 – 4
Fruit Turnovers				
18 x 26 x 1" (45.7 x 66 x 2.5 cm) pans	350-375	(177-191)	15 to 25	3 – 5
NOTE: Pies and cobblers; fruit, custard and pumpkin pies in pie pans should be placed on 18 x 26 x 1" (45.7 x 66 x 2.5 cm) pans for baking.				
Cookies				
Rolled or Pressed	350-400	(177-204)	6 to 12	3 – 5
Drop	350-400	(177-204)	6 to 15	3 – 5
Brownies	350	(177)	12 to 20	4 – 5
Yeast Breads NOTE: Yeast breads should be fully proofed for best results.				
Rolls — 1 oz	350-400	(177-204)	5 to 10	3 – 4
1½ to 2½ oz	350-400	(177-204)	8 to 15	3 – 4
Loaf Bread — 1 lb (453.4 g)	325-375	(163-191)	20 to 40	3(30) Pans 2(20) Pans
Sweet Rolls & Danish Pastry	325-375	(163-191)	5 to 15	3 – 4
Biscuits — Rolled ½" (1.3 cm) Thick	350-400	(177-204)	5 to 15	3 – 4
Muffins	325-375	(163-191)	6 to 18	3 – 4
18 x 26 x 1" (45.7 x 66 x 2.5 cm) pan, 5 to 7 lb (2.3 to 3.2 kg)/pan	335-400	(168-204)	10 to 20	4
18 x 26 x 2" (45.7 x 66 x 5 cm) pan, 8 to 20 lb (3.6 to 9 kg) per pan	335-400	(168-204)	15 to 25	4
Corn Muffins	335-385	(168-196)	10 to 20	3 – 4

REHEATING PREPARED FOODS

PRODUCT	TEMPERATURE °F (°C)	TIME IN MINUTES	NO. OF RACKS
Frozen French Fries	400-450 (204-232)	6 to 8 2 to 3	4
Frozen TV Dinners	350-400 (177-204)	10 to 12	2 – 5
Frozen Entrees	300-350 (149-177)	10 to 20	2 – 5
3/4 to 1" (1.9 to 2.5 cm) thick			
Frozen Meals, 8 oz Foil Pkg.	350-400 (177-204)	20 to 30	2 – 5
Fish Sticks & Portions			
Frozen Breaded, 1 oz	350-400 (177-204)	6 to 10	2 – 4
2 1/2 to 3 oz	350-375 (177-191)	8 to 15	2 – 4
Chicken Pieces			
Broiled or Oven Fried			
2 to 2 1/2 lb (0.9 to 1.1 kg)/bird	375-425 (191-218)	8 to 15	2 – 5
2 1/2 to 3 lb (1.1 to 1.4 kg)/bird	350-400 (177-204)	15 to 25	2 – 4
Lobsters — 1 to 1 1/2 lb (0.45 to 0.7 kg)	400-450 (204-232)	8 to 14	2 – 4
Lobster Tails — Frozen			
1/2 to 3/4 lb (0.2 to 0.3 kg)	350-400 (177-204)	10 to 15	2 – 4
Hamburger Patties			
8 per lb, med. to well done	400-450 (204-232)	5 to 6	2 – 6
6 per lb	400-450 (204-232)	7 to 10	2 – 6
4 per lb	375-450 (191-232)	8 to 12	2 – 6
CASSEROLES			
Food Service Pans			
2 to 3" (5.0 to 7.6 cm) deep	325-375 (162-191)	15 to 25	
3 to 4" (7.6 to 10.2 cm) deep	325-375 (162-191)	20 to 35	2 – 4
Ramekins or Foil Pans	350-400 (177-204)	5 to 6	4 – 5
Up to 1 1/2" (38.1 mm) deep			2 – 4
Frozen		10 to 15	
MISCELLANEOUS PRODUCTS			
Baked Potatoes			
120 count per 50 lb (22.7 kg)	400-450 (204-232)	20 to 25	2 – 5
100 count per 50 lb (22.7 kg)	400-450 (204-232)	25 to 40	2 – 5
80 count per 50 lb (22.7 kg)	400-425 (204-218)	30 to 45	2 – 5
Pizzas — Frozen or With Prebaked Crust	425-475 (218-247)	5 to 10	2 – 4
Grilled Cheese Sandwiches	400-425 (204-218)	8 to 10	2 – 4

CLEANING

WARNING: DISCONNECT ELECTRICAL SUPPLY AND PLACE A TAG AT THE DISCONNECT SWITCH TO INDICATE THAT YOU ARE WORKING ON THE OVEN BEFORE CLEANING.

Allow the oven to cool before cleaning.

Snorkel

The snorkel (heat circulation tube), located in the back of oven cavity, should never be blocked. The snorkel should be kept clean at all times for proper operation of the oven. Clean with standard oven cleaner at least once a week. Be sure to thoroughly clean all cleansing solution off before using the oven again. It is also recommended that the oven be run at 400°F (204°C) for 20 minutes before using to burn off any cleaning solution that was not thoroughly rinsed from the snorkel.

Daily

Exterior stainless steel oven panels should be cleaned with a damp cloth. Stubborn soil may be removed with detergent. (DO NOT USE "DAWN".) Rinse thoroughly and wipe dry with a soft, clean cloth.

Clean porcelain oven interior daily with soap or detergent and water. Rinse thoroughly and wipe dry with a soft, clean cloth.

Nickel-plated racks and rack supports are dishwasher-safe and may be removed for cleaning.

For exterior burned-on foods and grease which resist simple soap and water cleaning, an abrasive cleanser (scouring powder) mixed into a paste may be used. Apply with stainless steel wool or sponge, always rubbing with the "grain." This treatment is equally effective for "heat tint" (slightly darkened areas caused by oxidation). Again, remember to rub in the direction of the polish lines. Rinse with clear water and dry with a soft cloth.

Do not use scouring powder on the glass window; it will scratch and fog the glass.

After processing some foods at low temperatures, odors may linger in the oven. These odors may be cleared by setting the thermostat to 500°F (260°C) and allowing the oven to run unloaded for 30 to 45 minutes.

GUIDELINES FOR MAINTAINING STAINLESS STEEL SURFACES

There are three basic things that can break down the surface layer of stainless steel and allow corrosion to develop: 1) Abrasion; 2) Deposits and water and 3) Chlorides.

Avoid abrasion from rubbing with steel pads, wire brushes or scrapers that can leave iron deposits on stainless steel; instead, use plastic scouring pads or soft cloths. For stubborn stains, use products such as Cameo, Talc or Zud First Impression. Always rub parallel to the polish lines or with the grain.

Hard water can leave deposits that promote rust on stainless steel. Treated water from softeners or certain filters can eliminate these mineral deposits. Deposits from food must be properly removed by cleaning. Use mild detergent and nonchloride cleaners. Rinse thoroughly. Wipe dry. If using chloride-containing cleaners or sanitizers, ***rinse repeatedly*** to avoid stainless steel corrosion. Where appropriate, apply a polish recommended for stainless steel (such as Benefit or Super Sheen) for extra protection and lustre.

MAINTENANCE

WARNING: THE OVEN AND ITS PARTS ARE HOT. USE CARE WHEN OPERATING, CLEANING OR PERFORMING ANY MAINTENANCE.

WARNING: DISCONNECT ELECTRICAL SUPPLY AND PLACE A TAG AT THE DISCONNECT SWITCH TO INDICATE THAT YOU ARE WORKING ON THE OVEN BEFORE PERFORMING ANY MAINTENANCE.

LUBRICATION

The fan motor comes with sealed bearings and requires no lubrication.

VENT

Periodically check the flue, when the oven is cool, to be sure it is free of obstructions.

REPLACING LAMPS

1. Allow oven to cool.
2. Remove all racks by pulling forward, lifting up and out.
3. Unscrew glass dome from light body.
4. Replace the bulb.
5. Reassemble glass dome and racks.

TROUBLESHOOTING

Problem	Possible Cause	Suggested Corrective Action
Uneven browning or overcooked edges.	1. Oven is too hot. 2. Too many racks used.	1. Reduce temperature setting (refer to Cooking Guidelines). 2. Use fewer racks to allow better circulation.
Product pulling to edge of pan or spilling.	1. Oven is not level. 2. Sheet pans are warped.	1. Level oven racks - side to side and front to back. The rack should be level side to side and level to 1/8" low at the front from front to back. 2. Keep pans used for baking batter separate from general purpose pans. If any pan shows a tendency to warp, remove it from the baking group.
Excessive shrinkage.	1. Failure to maintain water in oven. 2. Roasting temperature too high.	1. Place pan of water in bottom of oven measuring 12 x 20 x 1" (30.5 x 51 x 2.5 cm). 2. Reduce temperature.
Ignition light remains lit for more than 20 seconds after 3 trials.	No gas supply.	• Turn oven off for 5 minues before attempting to relight. • Check gas supply valves to be sure they are open.

SERVICE AND PARTS INFORMATION

To obtain service and parts information concerning this oven, contact the Vulcan Service Agency in your area (refer to listing supplied with the oven), or Vulcan-Hart Company Service Department at the address or phone number shown on the front cover of this manual.